Blacktown City Council

File no: SSD 9472; MC-18-00003

27 November 2019

Social and Infrastructure Assessment
Department of Planning, Industry & Environment
GPO Box 39
SYDNEY NSW 2001

Attention: Prity Cleary

Dear Ms Cleary,

Re: SSD9472 - 151-161 Tallawong Road, Rouse Hill – Sikh Grammar School

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Thank you for the opportunity to comment on this State Significant Development proposal lodged under Part 4 of the Environmental Planning and Assessment Act 1979 ("the Act").

We have reviewed the application and our comments are listed in **Attachment A** to this letter. We request the items listed be addressed by way of amended or additional details and referred back to us for reconsideration and conditions before any final determination is made.

If you would like to discuss this matter further, please contact our Assistant Team Leader Ms Luma Araim on 9839 6958.

Yours faithfully

Alan Middlemiss
Acting Manager Development Assessment

ATTACHMENT A

Matters to be considered and addressed are as follows.

Engineering matters

Details of the following are requested:

Stormwater/drainage

1. Amended drainage plans from Martens and Associates Pty Ltd are to be provided to meet the requirements under Part J of BDCP 2015 and Council's Engineering Guide for Development 2005. The amended plans must address the following:

   i. Lots 42 & 43 are shown as flood affected on mapping provided by the Department of Planning, Industry and Environment. The habitable floor level for the proposed buildings are to be the higher of a minimum of 225 mm above finished ground level or 500 mm above the highest street gutter invert level outside the site.

   ii. The flows from the upstream catchment are flowing through the overland flow path runs through the site in current conditions. The proposed fill of the site fully blocks the flow path and the existing low point in Tallawong Road, which results in more than 1 m deep ponding in Tallawong Road before the flows are collected in the proposed pits and the excess flows run through the car park. This approach relies fully on the proposed pit and pipe system to capture and convey the 1% AEP flow. This is not supported by us as the more than 1 m deep ponding at the sag point in Tallawong Road in a 1% AEP storm event will flood the properties north-east of Tallawong Road and lead to high hazard conditions in Tallawong Road.

   iii. The issues of overland flows in Tallawong Road need to be addressed as to how the 1% AEP flows can be safely conveyed to the discharge point without flooding the properties upstream of Tallawong Road at the sag and how the ponding depth will be maintained to acceptable limits.

   iv. The Stormwater Management Plan shows more than 200 mm ponding in the proposed car park north of the site. The maximum allowable ponding depth is 200 mm.

   v. The architectural plans show a basement car park north-east of the site. Demonstrate how the overland flows for 1% AEP storm event through the site are diverted from entering the basement.

   vi. The 1% AEP flows for the upstream catchment shown in Table 2 of the Stormwater Management Plan are incorrect. The flows are to be calculated for the 6.7 ha upstream catchment.

   vii. The design of the 3 half width roads surrounding the lots and the external drainage pits and pipe system are to be shown on plan.

   viii. Number all the roads and pits.

   ix. Provide a tailout system at the final discharge point south-west of the site. Details to be provided.

x. The design levels of the half width road south-east of Lot 42 are to be consistent with the levels of the other half width road on the approved plan for the adjoining development at 141 Tallawong Road.

xi. In the drainage pipe system design for the external roads, provisions are to be made in the drainage plans for the future development at 163 Tallawong Road and in Lot D/DP407863 with stub pipes across half width of roads north-west and south-west of the site for future connections of drainage from those developments.

xii. Extend the stub lines of the other half of the road south-east of Lot 42 shown on the approved plans of 141 Tallawong Road and provide kerb inlet pits at the end of the pipe lines at the north-west side of the road.

xiii. The pipe line on the southern corner of Lot 42 is to be connected to the proposed discharge pipe from 141 Tallawong Road.

xiv. Show invert levels, surface levels, size and type of pits and pipes and grade of pipes of the internal and external drainage system on the overall drainage layout plan.

xv. Provide long sections of external pipe lines indicating pipe and pit system details, hydraulic grade line and the applied design ARI.

xvi. For stormwater quantity, Section 7.11 contributions apply to the area as indicated in the letter from Council's Contributions team.

xvii. Temporary OSD is required until the regional basin is operational, to cater for the 1% AEP flows from the site as well as the surrounding roads excluding Tallawong Road.

xviii. Provide an OSD catchment plan for stage 1 showing total catchment area and which area is directed to the OSD system and which area is bypassing. It is unclear which area is included in stage 1.

xix. The internal pipe system is to be sized to carry minimum 5% AEP flows. Flows up to 1% AEP storm from the internal catchment and the surrounding roads are to be directed to the temporary OSD basin. Demonstrate how the 1% AEP flows in excess of the drainage system capacity are directed to the OSD system.

xx. The pits shown for the internal drainage system are to be grated.

xxi. The swales shown within the site are to be designed for 1% AEP capacity. Provide calculations and show details of the swales on sections.

xxii. For stage 1, temporary detention storage has been provided. However amended plans are required to address how the temporary OSD is operational. The temporary OSD basin is to be designed as per Council's Water Sensitivity Urban Design standard drawings A(BS)175M. The OSD Deemed to Comply spreadsheet is to be used for OSD calculations for stage 1 also.

xxiii. The discharge pipe from the temporary OSD basin is to be connected to the street drainage system.

xxiv. The temporary OSD basin details that include levels, batter slopes, control pits with orifices, inlet and discharge pipe details are to be provided on plan and section.

xxv. Provide dimensions to the temporary OSD basin on plan to show that the required storage volumes can be achieved.

xxvi. For stormwater quality, Section 7.11 contributions apply to the area as indicated in the letter from Council's Contributions team.

xxvii. Temporary water quality treatment is to be provided for the site and to the external roads except for Tallawong Road until the regional water quality basin is operational. Show how the low flows from the external road and the site are directed to the temporary water quality basin. If the external road flows cannot be directed to the temporary water quality basin, 200 micron Ocean Guards (Stormwater 360) or Stormsack (SPELL) can be used in road pits.

xxviii. Provide a MUSIC catchment plan for stage 1 bioretention basin showing the catchment area, bypass area, and land use and which area.

xxix. Provide details of the temporary bio-retention basin. Details of the filter media layers with RLs and extended detention depth and size of the basin with dimensions are to be provided on plan and section.

xxx. Provide pit and pipe system along the frontages to capture the surface flows between the buildings and the boundaries.

xxxi. Show base and top RLs of the temporary OSD tank on plan.

xxxii. In OSD calculations, the base level of the tank is to be the average level of the base with 2% grade. The base level of the OSD tank is to be amended in the OSD spreadsheet.

xxxiii. In the OSD spreadsheet, the RL of invert of discharge to the Council drainage pit is to the design level of the external pit to which the discharge pipe is connected.

xxxiv. Show how the excess flows from the raingarden are directed to the OSD tank with levels.

xxxv. Show roof water pipe connections to the water quality devices on plan for stage 1 and ultimate stage.

xxxvi. Amend OSD and stormfilter tank plan on drawing no.E201 (D) to show the 2 inlets to the tank.

xxxvii. The OSD and Stormfilter tank is to be configured as per Council's Water Sensitivity Urban Design standard drawing showing details of energy dissipaters, Stormfilter weir and oil baffle.

xxxviii. The pits containing Ocean Guards and the size are to be clearly marked on the plan.

xxxix. All Ocean Guards within the site are to be identified as '200 micron'.

xl. Ocean Guards treating only surface flows require a minimum clear depth of 500 mm below the grate to any inlet or outlet pipe obvert. Ocean Guards treating surface flows and upstream pipe flows require a minimum clear depth of 500 mm from the invert of the upstream pipes to be treated, to the obvert of the outlet pipe. Where these pits are treating upstream pipe flows, the inverts of all pipes in and out of the pit are to be shown.

xli. Amend the MUSIC catchment plan on drawing no. E701 (C) showing which areas drain to which specific stormwater treatment device and bypass areas. The flows that directly run into the OSD tank are bypassing treatment.

2. Revised MUSIC modelling is required to address the following:

   i. In MUSIC, consider the ultimate design of the whole school site as 85% impervious.

   ii. Amend the bypass area in the model.

3. Amend Stormwater Management Report to reflect the required amendments.

4. Water conservation

   i. A rainwater tank (RWT) is required for water conservation. A minimum of 80% of non-potable water demand for the development is to be met through the reuse of rainwater. Non potable water demand is to include landscape watering and toilet/urinal flushing.

   ii. Allow for a minimum usage rate of 0.1 kL per day internal use per toilet or urinal (where the school is used only 5 days per week allow for 5/7 less school holidays) and a minimum of 0.4 kL per m^2 per year for landscape watering excluding turf areas.

   iii. If the total demand could not be met through a RWT alone, a stormwater tank (SWT) could also be provided to meet the annual demand for landscape watering.

   iv. Where a SWT is used, the RWT is to collect the roof water only and is to be re-used for all the toilets and urinals.

   v. MUSIC is generally used to assess the performance of the rainwater tank using the node water balance and an electronic copy of the MUSIC model needs to be provided to us for assessment.

   vi. Allow for a 20% loss in rainwater tank size volume in MUSIC to that shown on the design plans to allow for anaerobic zones, mains water top up levels and overflow levels, e.g. where a 50,000 L tank is specified on the drainage plan it is to be modelled in MUSIC as 40,000 L.

5. Stream Erosion Index

   i. Provide 2 separate and additional MUSIC models (pre and post) to demonstrate that the Stream Erosion Index (SEI) is less than 3.5 based on the technique in our MUSIC Modelling Guide in part 4 of the Developer Handbook for Water

Sensitive Urban Design available on our website. The pre development is to consider a vacant pervious block. Provide all calculations.

6. Provide amended drainage plan and Stormwater Management report, Deemed to comply spreadsheet for stage 1, MUSIC model for stage 1 and revised MUSIC model for the ultimate stage to address the issues above.

Other engineering matters

7. The application is proposing filling a low point and redirecting via piped drainage. We do not support this. A suitable drainage channel should be provided. In the event of blockage of drainage infrastructure of the 1% AEP storm event pond within Tallawong Road to an unacceptable level, flows will be forced into the school site and/or neighbouring properties, which is not an acceptable situation. Site plan and drainage plan is to be amended accordingly.

8. Any pipes within the property proposed to drain water from the road network must have a suitably sized easement over them.

9. Half road construction of Tallawong Road and half road construction of proposed ILP roads along all 3 property boundary lines must be included within this application. Plans to be amended to include longitudinal sections for proposed ILP roads and proposed drainage infrastructure.

10. Road construction and dedication must be completed prior to any building Construction Certificates being issued.

11. Extent of Tallawong Road half construction is for full frontage of both 151 and 161 Tallawong Road and inclusive of ancillary works to make construction safe and effective (i.e. batters and extension of road to meet existing levels where proposed design levels deviate from existing).

12. Tallawong Road levels to be in accordance with current Council design. Applicant to contact Georg Eberl our Asset Design Engineer to confirm centreline levels.

13. Proposed 1.5 m verge on Tallawong Road where proposed bus bay is located is not supported. Minimum verge width is to be 3.5 m.

14. Proposed signage, line-marking and any other form of local traffic calming devices inclusive of school zone requirements must be reviewed and approved by our Local Traffic Committee prior to Development Application approval.

15. Details of temporary On-site Detention (OSD) and temporary Stormwater Treatment Measures (STM) for all stages must be included within application documentation.

16. Plans to include detailed plan of upstream catchment drainage to proposed piped drainage solution and consideration for flood impacts from flows from the upstream catchment.

17. Tailout drainage works to be included within this application.

Traffic

18. The traffic report is silent as to whether the proposed parking on the site at each of the stages satisfy the parking requirements of the relevant Development Control Plan.

19. The potential trip generation of the proposed school has been estimated based on mode of travel survey undertaken at some schools in Sydney's Inner West. However, surveys undertaken in that part of Sydney may not be appropriate in Western Sydney. Western Sydney has different socio-economic demography, where transport choice is mostly depended on car travel rather than public transport. The proposed school site is not located within walking distance of a train station or a transport interchange. Therefore, the estimated traffic generation in the traffic report may not be representative of this location.

20. The development is an ethnic community based school, therefore the catchment for the school would be widespread and most likely not from the local catchment, which means more car dependency. The estimated 30% bus travel mode is unrealistic for this location.

21. Raised pedestrian crossings need to be proposed in the roads on the northern and southern boundary of the school site.

22. The roads abutting the site along the northern and southern boundaries need to have a carriageway width of at least 11 m (18 m road reserve) to allow parking on both sides of the road and to maintain 2 traffic lanes. In this regard, if any future residential subdivision opposite the school is approved to provide only an 8 m wide road reserve (half road), then the school needs to provide the remaining 10 m wide road reserve within the school site to make up the total road reserve of 18 m.

Natural area issues

23. Any approval is to include conditions of consent that should adequately incorporate all of the safeguards and mitigation measures (Section 6) of the Aquatic and Terrestrial Ecology Assessment NGH Environmental June 2019, including the supervision of the habitat tree by a suitably qualified ecologist. It is recommended that for each hollow lost, that 3 nest boxes for microbats are installed.

24. Additionally, approval is to include a condition of consent to prepare and implement a dam dewatering plan. The plan is to identify that dam dewatering is to occur with an aquatic ecologist on-site to rescue and relocate any native fauna found (including turtles, fish or eels) and to humanely euthanise any exotic species (such as European carp).

Open space

25. An arboricultural impact assessment report to confirm tree removal requirements is required. We believe some of the trees on site can be retained.

26. An updated landscape plan showing street trees at a spacing of approximately 8 m taking into account street lighting and vehicle sight lines.

27. The landscape plan must show street tree planting and maintenance details with the use of root directors installed to manufacturer's directions. Street tree species are listed below:

    Tallawong Road – Syncarpia glomulifera

    Northern street trees – Pyrus calleryana'Bradford'

Southern street trees – Zelkova serrata

Western street trees – Brachychiton acerifolius.

Urban design

28. Contemporary interpretation of a typical traditional Gurdwara, utilising glazed blocks with sacred script integrated into the façade design is a strong design feature.

29. Urban heat is a significant issue in Western Sydney which has been acknowledged in the design reports. However, there is still a significant portion of hardstand and built areas compared with soft landscaped zones. The design should incorporate additional soft landscaped or turfed areas in lieu of hard paved areas or increase the number of shade trees to the civic heart area as this is where students are likely to congregate during breaks. This area should be adequately shaded from both direct sunlight and to mitigate radiant heat from the buildings above and adjacent.

30. Privacy implications of the boarding rooms overlooking the residential lots on the west should be addressed.

31. Waste collection configuration must be wholly within the site. Trucks must enter and leave in a forward direction. The plans do not demonstrate that this is achievable within the design. Further, it is recommended that the waste and services pavilion is integrated into the design of the buildings to minimise its visual impact. The location of the pavilion is currently in a prominent location on site and will be highly visible. Collection areas should be adequately screened with landscaping and have suitable acoustic treatment to minimise impact on students and neighbouring development. Given that basement parking has been provided for the site, it is preferred that the service areas/waste collection is positioned within the basement. Refer to Blacktown City Council's Waste Section in regard to detailed operational requirements.